

Claims:

1. A system for the automated, audible recitation of text arranged in a sequence of one or more words and displayed on a surface defining an area having a height dimension and a width dimension, said area displaying more than one character of said text along each dimension, said system comprising:
 - (a) a first element capable of distinguishing individual words in said sequence from an image of said surface;
 - (b) a second element capable of audibly reciting the words distinguished by said first element, in said sequence; and
 - (c) a third element capable of capturing an image of said surface such that all characters of said text within said area are captured simultaneously.
2. The system of claim 1 where said first element includes a programmable electronic dictionary.
3. The system of claim 1 where said first element includes a spell checker.
4. The system of claim 1 where said second element is adjustable in at least one of a voice, volume, or pitch.
5. The system of claim 1 where said third element is capable of automatically focusing on said text.

6. The system of claim 1 where said third element includes a processor having software that instructs said third element to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, capture a second image that differs from said test image.

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7. The system of claim 6 where said second image corrects for a skewed test image.

10 8. The system of claim 6 where said second image is more focused than said test image.

9. The system of claim 6 where said second image corrects for a distortion in said test image resulting from capturing text from a curved surface.

15 10. The system of claim 6 where said second image is a portion of said first image.

20 11. A system for the automated, audible recitation of text arranged in a sequence of one or more words and displayed on a surface defining an area having a height dimension and a width dimension, said area displaying more than one character of said text along each dimension, said system comprising:

(a) a first element capable of distinguishing individual words in said sequence from an image of said surface:

(b) a second element capable of audibly reciting the words distinguished by said first element, in said sequence; and

5 (c) a third element comprising:

(i) an array of light-sensitive members that each convert light incident on said members to respective electromagnetic signals;

(ii) a lens capable of focusing an image on said array; and

(iii) a circuit capable of receiving said respective

10 electromagnetic signals and creating an electronic image associated with said image.

12. The system of claim 11 where said first element includes a programmable electronic dictionary.

15 13. The system of claim 11 where said first element includes a spell checker.

14. The system of claim 11 where said second element is adjustable in at least one of a voice, volume, or pitch.

20 15. The system of claim 11 where said third element is capable of automatically focusing on said text.

16. The system of claim 11 where said third element includes a processor having software that instructs said third element to capture a test image of at least a portion of said surface, analyze said test image, and based on said analysis, capture a second image that differs from said test image.

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17. The system of claim 16 where said second image corrects for a skewed test image.

18. The system of claim 16 where said second image is more focused than
10 said test image.

19. The system of claim 16 where said second image corrects for a distortion in said test image resulting from capturing text from a curved surface.

15 20. The system of claim 16 where said second image is a portion of said first image.

21. An electronic device comprising a processor, a lens in proximity to an array of light sensitive members that each convert light into a respective electrical signal,
20 and an audio device, whereby

(a) said lens is capable of focusing an optical image containing text in a sequence of words on said array which converts said optical image to an electronic image containing said text;

(b) said processor is capable of receiving said electronic image and identifying individual said words in said text and routing said words in said sequence to said audio device; and

(c) said audio device is capable of audibly reciting said words in said sequence.

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22. The apparatus of claim 21 where said electronic device is a PDA.

10 23. The apparatus of claim 21 where said electronic device is a laptop

computer.

24. The apparatus of claim 21 where said processor includes a programmable dictionary.

15 25. The apparatus of claim 21 including a self-contained power source.

26. The apparatus of claim 21 where said processor is capable of correcting for at least one of a skew, blur, and distortion.

20 27. The apparatus of claim 21 where said processor includes a page prompt module that is capable of identifying a page number in the header or footer of an image, and prompting the audio device to recite a warning to a user if the apparatus receives images of pages of text in nonsequential order.

28. A cell phone comprising:

- (a) a body portion containing a keypad, an audio receiver, and an audio transmitter;
- (b) a digital camera in said body portion having an outwardly facing lens; and
- (c) a processor capable of receiving an image containing a text sequence from said digital camera, distinguishing individual words in said sequence, and causing said audio transmitter to recite said individual words in said sequence.

10 29. The cell phone of claim 28 where said processor includes a programmable dictionary.

15 30. The cell phone of claim 28 where said processor is capable of correcting for at least one of a skew, blur, and distortion.

20 31. The cell phone of claim 28 where said processor includes a page prompt module that is capable of identifying a page number in the header or footer of an image, and prompting the audio device to recite a warning to a user if the apparatus receives images of pages of text in nonsequential order.

32. The cell phone of claim 28 where said processor includes one or more templates for identifying the format of text in a document corresponding to said template.

33. The cell phone of claim 32 where one of said templates corresponds to a phone book.

34. The cell phone of claim 33 where said cell phone includes a button and
5 said one of said templates instructs said processor to dial the phone number of a phone book entry being recited when the user presses said button.